Amendments To The Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

Claim 1. (Currently Amended) A process for producing a thin film of an I-III-VI_2, compound of an element from each of Groups IB and IIIB of the Periodic Table with two atoms of a Group VIB element, comprising:

~~a first step of~~ (i) forming a thin film of an III-VI compound on a substrate by Metal Organic Chemical Vapor Deposition ~~using~~ employing a single precursor ~~including~~ containing elements of Groups III and VI;

~~a second step of~~ (ii) forming a thin film of an I_2-VI compound on the thin film of the III-VI compound by Metal Organic Chemical Vapor Deposition ~~using~~ employing a precursor ~~including metals~~ containing at least one metal of Group I, thereby forming a compound of the elements from Groups I, III and VI which is symbolized by the formula: I-III-VI_2 ; and

~~a third step of~~ (iii) forming a thin film of the I-III-VI_2 compound on the thin film of the I_2-VI compound by Metal Organic Chemical Vapor Deposition ~~using~~ employing a single precursor ~~including~~ containing elements of Groups III and VI.

Claim 2. (Currently Amended) The process as set forth in claim 1, further comprising:

~~a fourth step of~~ (iv) forming a thin film of an I-III-VI_2 compound on the thin film of the I-III-VI_2 compound formed in the third step by Metal Organic Chemical Vapor Deposition ~~using~~ employing a single precursor ~~including~~ containing elements of Groups III

and VI, and wherein elements of Group III ~~used~~ employed in (iv) ~~the fourth step~~ are different from those ~~used~~ employed in ~~the first and third~~ steps (i) and (iii).

Claim 3. (Currently Amended) The process as set forth in claim 1, further comprising:

~~a fourth step of~~ (iv) forming a thin film of an I-III-VI_2 compound on the thin film of the I-III-VI_2 compound formed in the third step by Metal Organic Chemical Vapor Deposition ~~using~~ employing a single precursor ~~including~~ containing elements of Groups III and VI, and wherein elements of Group VI ~~used~~ employed in (iv) ~~the fourth step~~ are different from those ~~used~~ employed in ~~the first and third~~ steps (i) and (iii).

Claim 4. (Currently Amended) The process as set forth in any one of claims 1 through 3, wherein the precursors ~~used in the first and third~~ of steps (i) and (ii) are $[Me_2In\text{-}(\mu SeMe)]_2$.

Claim 5. (Currently Amended) The process as set forth in any one of claims 1 through 3, wherein the precursor ~~used~~ employed in ~~the second~~ step (ii) is (hfac)Cu(DMB).

Claim 6. (Currently Amended) The process as set forth in claim 2, wherein the ~~fourth~~ precursor of step (iv) is $[Me_2Ga\text{-}(\mu SeMe)]_2$.

Claim 7. (Currently Amended) The process as set forth in claim 2, wherein the thin film of ~~an I-III-VI$_2$~~ a compound symbolized by the formula: Group I-Group III-Group VI$_2$ is selected from the group consisting of $CuIn_{1-x}Ga_xSe_2$, $CuIn_{1-x}Al_xSe_2$, $CuGa_{1-x}Al_xSe_2$, $AgIn_{1-x}Ga_xSe_2$, $AgIn_{1-x}Al_xSe_2$ and $AgIn_{1-x}Ga_xSe_2$.

Claim 8. (Original) The process as set forth in claim 3, wherein the thin film of an I-III-VI$_2$ compound is selected from the group consisting of $CuIn(Se,S)_2$, $CuGa(Se,S)_2$, $AgIn(Se,S)_2$, $AgGa(Se,S)_2$, $CuIn(Se,Te)_2$, $CuGa(Se,Te)_2$, $AgIn(Se,Te)_2$, $AgGa(Se,Te)_2$, $CuIn(S,Te)_2$, $CuGa(S,Te)_2$, $AgIn(S,Te)_2$ and $AgGa(S,Te)_2$.

Claim 9. (Currently Amended) A process for producing an absorption layer for a solar cell, comprising ~~the steps of~~:

forming ~~an InSe~~ a thin film of InSe on a substrate by Metal Organic Chemical Vapor Deposition ~~using~~ employing a single precursor ~~including~~ containing In and Se;

forming a ~~Cu_2Se~~ thin film of Cu_2Se on the InSe thin film by Metal Organic Chemical Vapor Deposition ~~using~~ employing a Cu precursor; and

forming a ~~$CuInSe_2$~~ thin film of $CuInSe_2$ on the Cu_2Se thin film by Metal Organic Chemical Vapor Deposition ~~using~~ employing a single precursor ~~including~~ containing In and Se.

Claim 10. (Currently Amended) The process as set forth in claim 9, further comprising ~~the step of~~:

forming a ~~$CuIn_{1-x}Ga_xSe_2$~~ thin film of $CuIn_{1-x}Ga_xSe_2$ on the ~~$CuInSe_2$~~ thin film of

$CuInSe_2$ by Metal Organic Chemical Vapor Deposition ~~using~~ employing a single precursor

~~including~~ containing Ga and Se.